Media Watch

Genomics dazzle the Big Apple

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The Genomic Revolution, American Museum of Natural History, New York, until January 1, 2002, (Central Park West between West 77th and West 81st Streets) www.amnh.org

Glowing through the darkness of the museum are the lights of green for adenine, blue for cytosine, yellow for guanine, and red for thymine—the 4 bases of DNA. This spectacular exhibit, in a museum known for good exhibits, guides visitors through dimly lit rooms, past gleaming panels, interactive computers, video comments by expert scientists, hands-on experiments, and polling stations. It presents a clear view of what we know about human, animal, and plant genomes. In an even-handed way, it raises questions about genomic research and its implications, and it asks viewers to consider ethical problems and make choices.

Rob DeSalle, curator of the exhibit, told me, "In 10 or 20 years, everyone will be making decisions about their genes. Technology outstrips the ethics." The museum conducted a national survey that showed that people did not understand the vocabulary of genomics. Either laid-back or ignorant, Americans did not react to issues of genetically modified foods or cloning with the fury of Europeans. For example, 70% of Americans said that, as far as they knew, they had never eaten genetically modified food, whereas in fact almost all have eaten it. More Americans were in favor of cloning a favorite pet than cloning a favorite human, although the majority opposed both ideas.

Brightly colored lights draw visitors to the Learning Lab to view vials containing samples of DNA from a wide range of species

Profusion of life exhibit shows how DNA information has led to reclassification of wildlife species and the development of conservation strategies

DeSalle said the museum believes the exhibit will help everyone gain the knowledge to make decisions about the way genomics will affect them. The first section shows Watson and Crick's original model of the double helix and gives due credit to Rosalind Franklin, whose contribution is often ignored. The next section lets visitors guess the genetic similarity between humans and animals—98% with chimpanzees, but did you know that it was 7% with *Escherichia coli?* Other sections consider the new strides in medicine, with videos of people who have already been treated with gene therapy, the possibility of choosing children with "good genes," and changing genes through gene therapy. Another section addresses the pros and cons of genetic modification of animal and plant foods.

If you ever wanted to explain the complex polymerase chain reaction to your kids, take them here. The animation sequence makes it simple. Other sequences clearly show chromosome unwinding, the transcription of messenger RNA, how proteins are made, and how they fold to become functional.

Three computer polling stations allow visitors to answer ethical questions, such as who should have access to their genetic information. They can anonymously compare their answers to people surveyed nationally and to other museum visitors.

A real, working laboratory lets visitors find and sequence their own DNA. It is set up for classes of 36 high-school students but will be open to museum visitors at other times. A resource center gives visitors brochures and access to search the web for more information. Through the year, the museum will present films, lectures, and workshops on genomic issues.

This is the best science museum exhibit I've ever seen.